

copy Oct. 1949

~~SECRET~~~~CONFIDENTIAL~~TENTATIVE SPECIFICATION FORELECTROWRITER TERMINAL EQUIPMENTES-1, Project No. #2023, Contract PSC-101Nomenclature

The specifications contained herein apply to "Electrowriter Terminal equipment" consisting of:

1. Servo motor system driving a pen through a two coordinate pantograph linkage, hereafter called "Graphic transducer".
2. Electronic servo amplifier for two coordinates with acceleration control circuits hereafter called "Servo amplifier".

Operating conditions

Ambient temperature	-10° to + 50° C.
Ambient relative humidity	95% max.
Duty	continuous, unattended.

Electrical characteristics

Power consumption	150 VA.
Power supply voltage	75V-90V-110V-130V-150V- 180V-220V-260V $\pm$ 10%
Power supply frequency	40 - 400 cps.

Levels and impedances

Transmitting output impedance	600 ohms
Transmitting output level	.8 V $\pm$ 1 db. RMS
Receiving input impedance	600 ohms
Receiving input level	.05 to 1.5V RMS

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DOC	5	REV DATE	21/4/80	BY	37/69
ORIG COMP	33	OPI	56	TYPE	30
ORIG CLASS	5	PAGES	3	REV CLASS	C
JUST	22	NEXT REV	2040	AUTH:	HR 10-2

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Bandwidth requirements of the transmission medium .

The wire or radio link interconnecting two Electrowriter terminal equipments should be capable of transmitting audio frequencies from 300 to 2400 cycles.

Signal to noise Requirements

Peak deviation	Min. S/N
from straight line trace	decibels
.003"	46
.006"	32
.0012"	24

Paper spool dimensions:

Diameter 3 3/8"  $\pm$  1/8"  
 Width 4.25"  
 2 rows of perforation

Writing surface:

3 1/2" x 2 3/4"

Linear reproduction accuracy tolerance

$\pm$  5%

Description of the Electrowriter

The device is capable of transmitting and receiving intelligence in form of handwritten messages and handdrawn sketches. The motions of a stylus in the sending station control the motion of a stylus in the receiving station resulting in a faithful reproduction of the message. In order to cover all points of a two-dimensional writing surface, signals for two coordinates have to be transmitted. A third signal, keyed off-on, lowers or raises the receiving stylus to or from the paper. The equipment performance is highly independent of signal level variations.

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Mechanical characteristicsGraphic Transducer

Dimensions: 16" x 10 $\frac{1}{2}$ ", max. height 9"

Weight: net 28 lb. max.

Material: Aluminum castings, stampings, silicon steel laminations,  
Alnico-5 magnets, ball bearings and bronze sleeve bearings.  
Coil wound with heavy Formex insulated wire.

Finishes: Dull black baked enamel on housing surfaces. Aluminum surfaces  
anodized. Coils varnish impregnated and baked where hermetic  
sealing not practicable.

Servo Amplifier

Dimensions: 8" x 18" x 8"

Weight: 35 lb. max.

Materials: Chassis made of spot welded steel, copper plated with dull  
black baked enamel finish.

Recommended operating spares

200% tubes

1 21 conductor cable

1 line cord

1 writing arm

12 spools of paper

4 pilot lamps

1 stylus

Recommended base spares

100% of all mechanical and electronic components, except chassis and cabinets.

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